

# A NEW SPECIES OF *HEMIERGIS* (SCINCIDAE: LYGOSOMINAE) FROM VICTORIA

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## Abstract

A new species of lygosomid skink (*Hemiergis millewae*) is described, from the Victorian Mallee Region.

## Introduction

Field work in the Victorian Mallee since 1973, has revealed the presence of a small, pentadactyl, lygosomid skink, not previously known from this State. The species fits into the genus *Hemiergis* Wagler, 1830, as recognized by Greer (1967), but does not fit the only pentadactyl species (*H. initiale* Werner, 1910). A thorough search of the National Museum of Victoria collections brought to light a further five specimens, which had previously been identified as *Anotis maccoyi* (Lucas and Frost).

The genus *Hemiergis* was first erected by Wagler in 1830, and has since been redefined by many authors, principally Gray (1845), Boulenger (1887), Mittleman (1952), Greer (1967), Cogger (1975) and Storr (in Press). Although Cogger and Storr provide the most recent definitions, Greer's concept of the genus is accepted here.

Gray provided the first detailed diagnosis of the genus, restricting it to skinks with transparent lower eyelids, and digits 3-3. He also considered the presence of paired frontoparietals to be diagnostic, a character which Storr has shown to be variable within the genus, even at the specific level. Mittleman restricted the genus to species having 4-4 or less digits, thus excluding Werner's 1910 pentadactyl species *H. initiale*. Greer's diagnosis accepted *H. initiale* as a true *Hemiergis*, thus expanding the genus to include pentadactyl species. Cogger's definition contradicted Greer's in that it included . . . 'ear opening usually absent, its position is usually indicated by a slight depression (a minute opening in one species)'. All other workers have agreed that the ear opening is in fact covered by scales. Cogger's move

was made to allow the inclusion of *Siaphos maccoyi* Lucas and Frost into *Hemiergis*, thus making *Hemiergis* polyphyletic, as Cogger recognized when he said . . . 'the genus as recognized here is almost certainly composite, but relationships are obscure'.

Storr's definition basically agrees with that of Greer, differing in that Storr said that all species have a complete series of suboculars, whereas Greer stated that the subocular row was 'complete, except in *H. initiale*'. In addition to the above characters, Greer also separated *Hemiergis* from *Lerista* by the presence of four supraoculars as against 2-4, usually 3, paired rather than single supradigital scales on the fourth toe, and non-enlarged as against greatly enlarged nasal scales.

## Genus *HEMIERGIS* Wagler, 1830

*Hemiergis* Wagler, 1830, *Nat. syst. amphib.*, p. 160.

Type-species *Zygnis decrestiensis* Fitzinger, 1826.

*Diagnosis*: Small elongate, short-limbed skinks. Lower eyelid movable, with a transparent disc. Digits 5-5 to 2-2, normally equal numbers on fore and hind limbs. Subdigital lamellae less than 16. Subocular row complete in all non-pentadactyl species. Ear aperture absent, ear indicated by a depression. Supradigital scales paired.

## *Hemiergis millewae* sp. nov.

Fig. 1

*Holotype*: D47410, adult male in the National Museum of Victoria, collected at Millewa South bore, Vic., in 34°56'28"S: 141°4'E on 15.XI.1975 by A. J. Coventry and P. Mather.

*Description*: Snout-Vent (S.V.) length 43.5 mm. Length of tail (intact) 75.3 mm, 173% of S.-V. length. Total length 118.8 mm. Length of hind limb 13.0 mm, 30% of S.-V. length. Length of fourth toe 4.7 mm, 36% of hind

limb length. No supra or postnasal scales. Rostral and frontonasal in fairly broad contact. Frontal and frontonasal in narrow contact. Pre-frontals large, just failing to meet: contacting the frontonasal, anterior and posterior loreals, first supraciliary and frontal. Two loreals, large and subequal. Frontoparietal entire, interparietal separate, large, almost half the size of the frontoparietal. Parietals large, barely contact along the midline. One pair of enlarged nuchals, followed by a second, single nuchal on the left hand side. Three enlarged temporals, the upper largest. Four supraoculars, the second the largest. Seven supraciliaries, seven upper ciliaries, the third to fifth largest. Nine lower ciliaries. Lower eyelid movable with an extremely large transparent palpebral disc bordered above by the lower ciliaries but otherwise surrounded by small granular scales.

Length of eye 1.6 mm, length of disc 1.1 mm, 69% of eye length. Seven upper labials, the fifth subocular and completely interrupting the subocular series, of which two are anterior to, and three posterior to the fifth upper labial. Seven lower ciliaries. Ear opening completely covered by scales, indicated by a depression. A pair of enlarged preanal scales. Limbs short, pendent, when adpressed, failing to meet by approximately 25% of the distance between the axilla and the groin. Subdigital lamellae dark coloured, undivided and smooth, 12 under the fourth toe. Midbody scales smooth, in 22 rows.

*Colour in Life:* Uniform dark olive brown dorsally, with no trace of spots, striations or lines. A burnt orange dorso-lateral stripe, approximately two scales wide, commencing above and behind the ear, and extending to the hind limbs. Lateral surfaces off-white, and ventral surfaces pale yellow. Dorsal and lateral surfaces of tail similar to mid-dorsal colour, ventral surfaces of tail off-white, with darker spots. Chin whitish, each scale bordered by dark brown.

*Colour in Alcohol:* Drab brown dorsally, whitish laterally, and light grey ventrally. There is almost no trace of the dorso-lateral stripe.

*Paratypes:* Fifteen specimens in the National Museum of Victoria as follows:

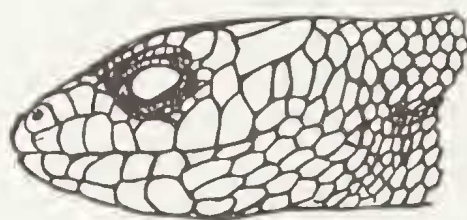
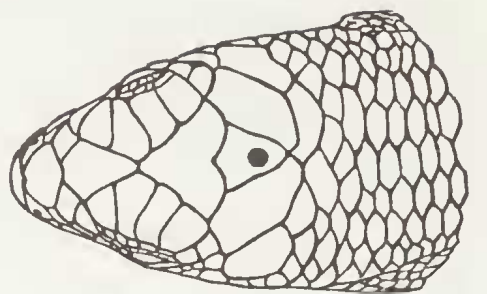


Fig. 1.—Head shields of holotype of *Hemiergis millewaie* D47410, dorsal and lateral views.

D33348 sex undetermined, D33349 male, 0.3 km S of Millewa South Bore, collected G. Barnes 31.8.1973; the remaining thirteen specimens, all from Millewa South Bore as follows:

D33341—2 sex undetermined, collected by G. Barnes 29.8.1973;

D38847 sex undetermined, collected A. J. Coventry 4.4.1974.

D40169 sex undetermined, collected A. J. Coventry 24.9.1974;

D47394—6 males, D47397 female, collected A. J. Coventry and P. Mather 13.11.1975;

D47398—400 females, collected A. J. Coventry and P. Mather 14.11.1975;

D47418 male, and D47419 female, collected A. J. Coventry and P. Mather 16.11.1975.

*Description of Paratypes:* As for holotype excepting as follows: S.-V. lengths 41.7–58.6 mm (mean 50.2); hind limb length 11.1–13.7 mm (mean 12.3); percentage of S.-V. length 23.1–28.1 (mean 24.7); length of 4th toe 4.5–5.4 mm (mean 4.8) percentage of hind limb length 35.7–42.0 (mean 39.0). Upper

ciliaries 8-10 (mean 9.1), lamellae under 4th toe 12-14 mean (12.8).

Nuchals: one pair (4 specimens), two pairs (2 specimens), two pairs plus a third on right side (1 specimen), two pairs plus a third on left side (1 specimen). D33348 has a damaged first toe on the left hind foot; D40169 has the right fore foot missing; D47395 has the second and third fingers of the right fore limb damaged; D47397 has a damaged left fore foot, the second and third fingers, which arise from a common base, being truncated to appear as a single digit; D47398 has the third toe on the right hind foot truncated; D47418 has a damaged fourth toe on the left hind limb.

Colour of all these specimens, in alcohol, similar to the holotype, excepting that in many of them, the dorso-lateral stripe is completely missing.

#### OTHER SPECIMENS EXAMINED

D1552-3, D1556 from Purnong, S.A., D11767-8 from Nonning, S.A., and D47409, a juvenile, same data as for holotype.

*Ecology*: Little is known of the ecology of this species. It resides in porcupine grass (*Triodia* sp.) in sandy soil supporting a fairly heavy cover of mallee scrub. It never appears to emerge from the *Triodia*, and was only located either by burning or the ripping out of this grass. No activity was observed at any time

of the day or night, although other species of reptiles (e.g. *Ctenotus brachyonyx*, *Menetia greyi*, *Amphibolurus barbatus*, *Amphibolurus fordi*, *Delma inornata* and *Lialis burtoni*) were active during the time spent collecting the type series. Obviously *H. millewae* is a thigmotherm, dependent upon *Triodia*, which one assumes supplies its food source in the many forms of invertebrates co-habiting with it.

#### Key to *Hemiergis millewae* and other southern short limbed skinks

1. Ear opening visible, not covered by scales ..... 2  
Ear covered by scales, indicated by a depression ..... 3
2. Nasals enlarged, meet or almost meet behind rostral ..... *Lerista* species  
Nasals not enlarged ..... *Anotis maccoyi*
3. Digits 5-5 ..... 4  
Digits 4-4 or less . . . all other known  
*Hemiergis*
4. Hind limb at least 20% of S.-V. length, subcaudals 12 or more . . . . . *H. millewae*  
Hind limb less than 20% of S.-V. length, subcaudals 11 or less . . . . . *H. initiale*

This species is named in recognition of the locality where the type series was collected.

TABLE 1

Showing comparative lengths of hind limbs, and lamellae under longest toe of *H. millewae* and its allies

SPECIES	N	Hind Limb % S.-V. length			Lamellae under longest toe	
		Max.	Min.	Mean	No.	Mean
<i>H. millewae</i>	16	29.9	21.0	25.1	12-14	12.8
<i>H. initiale</i>	21	18.7	13.2	16.0	7-10	8.8
<i>H. peroni</i>	18	23.6	17.7	20.2	10-14	10.7
<i>H. decresiensis</i>	24	16.5	11.1	13.8	7-8	7.0
<i>A. maccoyi</i>	21	19.5	15.1	17.2	8-9	8.3

### Addendum

Through the courtesy of Dr. T. F. Houston of the South Australian Museum, I have been able to examine an additional 119 South Australian specimens of this species, which are under his care. These are as follows:—

R112 Purnong; R3044 A — F near Siam Station woolshed, 19.3.1950 under *Triodia*; R3069 A — Z Birthday Well, Cariewerloo Station 11.3.1950; R3855 & R10760 — 1 24 km N. Poochera 15.6.1956; R3860, R10767 — 73 & R10775 — 6 Kondoolka Turnoff, Gawler Ranges 17.6.1956; R5377 & R10762 6 Gawler Ranges March 1963; R10733 — 58 Mamblyn 29.4.1969; R11284 21 km N. E. Blanchetown 16.2.1969 in sandy soil under a spinifex bush in mallee scrub; R12490 A — Z Miccollo Hill, Siam Station 32° 32' S.: 136° 36' E. 20.4.1971 — ex *Triodia* Bush; R12619 8 km from Bakara 34° 4' S.: 139° 45' E. January 1970; R13012 A — G 13 km S Alawoona 36° 6' S.: 140° 32' E. 24.1.1972 — ex *Triodia* bushes; R13099 A — C near Oulnina homestead, Olary Ridge, 32° 34' S.: 139° 53' E. March — April 1972; R13381 Hiltaba Reservoir 32° 10' S.: 135° 4' E. 26.8.1972; R13704 1.5 km S. of Mulgathing Rocks 30° 7' S.: 134° 0' E. 23.4.1973 in Granite outcrop; R14766 10 km E., 7.5 km N. of Blanchetown 28.8.1975 low dune mallee.

Of these specimens R3069B, R11284 & R13012B each have one foetus in utero, R3069M, R13012A & D each have two foe-

tuses in utero, and R3069X, R10736 & R10748 are hatchlings. This confirms that the species is viviparous, having one or two young per litter, the young being born in late summer or early autumn. In these series the midbody scale rows vary from 22 — 24.

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